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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : M. YOSHINO et al.

Art Unit: 3683

Serial No : 10/671,669

Examiner: Lan NGUYEN

Filed : September 29, 2003

For : BRAKE SYSTEM AND BRAKE DEVICE FOR USE WITH AUTOMOBILES

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Window, Mail Stop AF  
Randolph Building  
401 Dulany Street  
Arlington, VA 22314

Sir:

In response to the outstanding Final Official Action of September 19, 2005, in which a three-month shortened statutory period for response was set to expire on December 19, 2005, and which has been extended to expire on January 19, 2006, and for which a Notice of Appeal is being concurrently filed, Applicants respectfully request a Pre-Appeal Brief Panel to review and withdraw the outstanding rejections set forth in the above-mentioned Official Action in view of the herein contained remarks.

REMARKS

In the outstanding Official Action, claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by TAKATA (U.S. Patent No. 5,031,968), and claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over TAKATA (U.S. Patent No. 5,031,968) in view of LEIBER et al. (U.S. Patent No. 4,603,918).

**A. The Rejection under 35 U.S.C. § 102(b) based upon TAKATA**

Claim 1 includes, inter alia, “an accumulator that accumulates a pressurized braking liquid; a proportional pressure controller that controls the pressure of the pressurized braking liquid, and supplies the pressurized braking liquid to a wheel, the proportional pressure controller including a spool; and a push rod connected to the brake pedal and movable between a first position spaced from the spool and a second position contacting the spool, wherein the push rod moves in response to the stroke of the brake pedal in order to contact and push the spool; wherein the proportional pressure controller controls the pressure of the pressurized braking liquid in accordance with the stroke signal and free from the motion of the push rod before the push rod contacts and pushes the spool, and in accordance with the stroke signal and the motion of the push rod after the push rod contacts and pushes the spool.”

As an initial matter, Applicants submit that TAKATA lacks any disclosure of a proportional pressure controller having a spool, which controls the pressure of the pressurized braking liquid (*which is defined in the claim as the pressurized braking liquid which is accumulated in the accumulator*). In this regard, Applicants note that the dynamic pressure piston 9 and integral master cylinder piston 10 in TAKATA control the pressure of the braking liquid in the static pressure line (i.e., to brakes 11). In contrast, the braking liquid from the accumulator ACC is only provided through the dynamic pressure chamber 7 to brakes 12. Note column 4, lines 43-52. Accordingly, insofar as the Examiner attempts to read the operation of the push rod 8 and the piston 9, 10 in TAKATA on the push rod and spool recited in claim 1, Applicants submit that the piston 9, 10 (and any potential interaction between the push rod 8 and the piston 9, 10) at the most controls the pressure

of the braking liquid in the static pressure line to brakes 11, and *does not control the pressure of the pressurized braking liquid (from the accumulator ACC), which passes through the dynamic pressure chamber 7 along the dynamic pressure line to brakes 12.*

Applicants further submit that in TAKATA the push rod 8 is only disclosed as contacting the spool 9 *when there is a failure within the braking system* (i.e., a failure in the dynamic pressure line). Note the Abstract, lines 6-9; column 6, lines 9-20; column 8, lines 1-9. Further, in regard to column 9, line 60 through column 10, line 8 of TAKATA, Applicants note that this portion describes the purpose of the limit valve 18, and a condition which would occur if the limit valve 18 were not provided. In particular, this portion of TAKATA describes how, under an excessive treading force, the push rod 8 would contact the spool 9 and create undue pressure resulting in brakes locking, however the limit valve 18 prevents such undue pressure and locking.

Accordingly, Applicants submit that *under normal operating conditions* the push rod 8 of TAKATA *does not move between positions spaced from the spool 9 and contacting the spool 9.* In contrast, note for example the push rods 118 and 118a shown in the embodiments of Figs. 9(a) and 9(b) of the present application. Applicants further note that, contrary to the Examiner's contention, the present claims are directed to embodiments such as those disclosed in Paragraphs [0089] through [0095] of the present application, which include a push rod connected to the brake pedal, and in which the push rod contacts the spool without any braking system failure. Note, for example, the description in Paragraphs [0090], [0092] and [0093].

Further, even assuming, arguendo, that the push rod 8 contacts the spool 9 *under some system failure condition* in the system of TAKATA, Applicants submit that *there is no*

*time during which the proportional pressure controller controls the pressure of the pressurized braking liquid in accordance with only the stroke signal, and free from the motion of the push rod, as is recited in claim 1. In this regard, Applicants submit that since movement of the push rod 8 directly effects the volume of the dynamic pressure chamber 7 and the pressure of the fluid therein, there is no time during which the proportional pressure controller controls the pressure of the pressurized braking liquid *in accordance with only the stroke signal* in the system of TAKATA. In this regard, Applicants note that claim 1 clearly recites that *the proportional pressure controller controls the pressure of the pressurized braking liquid in accordance with the stroke signal and free from the motion of the push rod before the push rod contacts and pushes the spool.**

Applicants further submit that, after the push rod 8 contacts the spool 9 *under some system failure condition* in the system of TAKATA, *the proportional pressure controller would no longer control the pressure of the pressurized braking liquid in accordance with the stroke signal, since there would have been a failure in the dynamic pressure line, as explained above.* Accordingly, it would appear that after such a failure, the pressure of the liquid is controlled only in accordance with the motion of the push rod 8 (i.e., by contacting the spool 9), rather than in accordance with both the stroke signal and the motion of the push rod.

**B. The Rejection under 35 U.S.C. § 103(a) based upon TAKATA and LEIBER et al.**

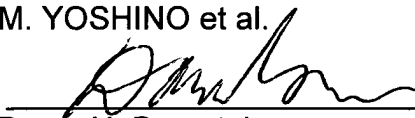
Applicants submit that the teachings of LEIBER et al. do not cure the above-noted deficiencies in the teachings of TAKATA with regard to the subject matter of claim 1, and that the modifications suggested by the Examiner with regard to claims 2 and 3 would not

have been obvious to one of ordinary skill in the art. Applicants submit that providing a restoring spring in the system of TAKATA, as suggested by the Examiner, would effectively destroy the teachings of TAKATA with respect to the disclosed benefits of its braking system and the preferred operation of the push rod 8, which receives counterforce from the dynamic pressure in chamber 7 (column 4, lines 38-42). In this regard, Applicants submit that TAKATA *effectively acknowledged and dismissed the use of such a spring*. Note column 1, lines 58-68 ("As one solution to these problems, it has been proposed to control the relation between the treading force and pedal stroke by use of a spring. . . . But it is necessary to provide means for removing the reaction force of the spring in case the dynamic pressure line should fail"). Accordingly, Applicants submit that TAKATA clearly teaches away from the modification suggested by the Examiner.

#### CONCLUSION

Reconsideration of the outstanding Official Action and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate. Should there be any questions or comments, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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